

- 53 -

CLAIMS

1. An electric stowing system for a vehicle seat for folding a seat back against a seat cushion and swinging the seat cushion and the seat back together and
5 stowing them in a floor recess positioned behind the seat, the system comprising:

seat back forward-tipping means for automatically tipping the seat back forward to fold it against the seat cushion;

swinging means for automatically swinging the forwardly tipped seat
10 back and the seat cushion as one and stowing them in the floor recess; and

a control unit for controlling the operation of the seat back forward-tipping means and the swinging means.

2. An electric stowing system according to claim 1, characterized in that in
15 returning the seat stowed in the floor recess to a sitting state, at a position where the seat cushion has swung to a predetermined angle a reclining lock of the seat back forward-tipping means is unlocked and a motor drive force is made to act only on the seat cushion.

20 3. An electric stowing system according to claim 1, characterized in that it further comprises a seat operating switch for ordering operation of the seat back forward-tipping means and the swinging means, and the seat operating switch is disposed behind the seat cushion.

25 4. An electric stowing system according to claim 1, characterized in that the control unit controls the seat cushion and the seat back to be operated automatically on the conditions that an automatic transmission of the vehicle is

- 54 -

in a Park position, or a parking brake is operating, and a tailgate is open.

5 5. An electric stowing system according to claim 1, characterized in that the seat back forward-tipping means is incorporated into the seat back or the seat cushion.

6. An electric stowing system according to claim 1, characterized in that the control unit is incorporated into a central part of the seat cushion, outside of seating positions.

10 7. An electric stowing system according to claim 6, characterized in that it further comprises a dome-shaped cover member for covering an upper face of the control unit, wherein the cover member is incorporated into the seat cushion.

15 8. An electric stowing system according to claim 7, characterized in that a buckle for fastening a seat belt for passenger protection is disposed behind the cover member.

20 9. An electric stowing system according to claim 7, characterized in that the cover member has in its front end an opening through which can pass at least one harness extending from the control unit.

25 10. An electric stowing system according to claim 1, characterized in that it further comprises a seat operating switch for stowing a seat made up of the forwardly tipped seat back and the seat cushion in the floor recess, and the seat operating switch is disposed behind the rearmost seat and in the vicinity of the

- 55 -

opening of the tailgate of the vehicle.

11. An electric stowing system according to claim 10, characterized in that the seat operating switch causes the operation of stowing the seat to proceed only
5 while its ON state is maintained.

12. An electric stowing system according to claim 10, characterized in that when within the range of swing of the seat the seat has stopped, a warning is provided for a predetermined time.

10

13. An electric stowing system according to claim 10, characterized in that it further comprises a warning device for, when the seat cushion is not locked to the floor, warning that it is not locked, and the warning device is provided on the driver's side.

15

14. An electric stowing system according to claim 13, characterized in that the warning device is an indicator.

15. An electric stowing system according to claim 13, characterized in that the
20 warning is provided when the seat is at an angle to the floor such that it can be sat upon.

16. An electric stowing system according to claim 10, characterized in that it further comprises a device for providing a warning sound when the seat back is
25 in a forwardly tipped state.

17. An electric stowing system according to claim 10, characterized in that the

- 56 -

swinging means comprises a drive motor, and a warning is provided when the motor current value of the drive motor is above a predetermined value.

18. An electric stowing system according to claim 17, characterized in that a
5 coupling part of the drive motor has a slip clutch.

19. An electric stowing system according to claim 1, characterized in that the seat back forward-tipping means comprises:

a reclining mechanism, having a spring for urging the seat back in a
10 forward-tipping direction, which turns about a pivot shaft of the seat back; and
unlocking means for unlocking the reclining mechanism.

20. An electric stowing system according to claim 19, characterized in that the reclining mechanism has unlocking means for unlocking the reclining
15 mechanism manually.

21. An electric stowing system according to claim 19, characterized in that a one-way damper is provided between the seat cushion and the seat back so that a damper function acts with respect to the forward tipping direction of the seat
20 back but the damper function does not act with respect to the return direction.